

# NFRC 716-2026<sub>[E0A1]</sub>

## NFRC Certified Simulator Program

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Rating Council, Inc.

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## ***FOREWORD***

The National Fenestration Rating Council, Incorporated (NFRC) has developed and operates a uniform rating system for energy and energy-related performance of fenestration products. The Rating System determines the U-factor, Solar Heat Gain Coefficient (SHGC) and Visible Transmittance (VT) of a product, which are mandatory ratings for labeling NFRC certified products, are mandatory ratings for inclusion on label certificates, and are supplemented by procedures for voluntary ratings of products for Air Leakage (AL), and Condensation Resistance and/or Index. Together, these rating procedures, as set forth in documents published by NFRC, are known as the NFRC Rating System.

The NFRC Rating System employs computer simulation and physical testing by NFRC-certified laboratories to establish energy and related performance ratings for fenestration product types. The NFRC Rating System is reinforced by a certification program under which NFRC-licensed responsible parties claiming NFRC product certification shall label and certify fenestration products to indicate those energy and related performance ratings, provided the ratings are authorized for certification by an NFRC-licensed certification and Inspection Agency (IA).

The requirements of the rating, certification, and labeling program (Certification Program) are set forth in the most recent versions of the following as amended, updated, or interpreted from time to time:

- NFRC 700 Product Certification Program (PCP).
- NFRC 705 Component Modeling Approach (Component Modeling Approach (ASL requirements)), Product Certification Program (Component Modeling Approach (ASL requirements)-PCP).

Through the Certification Program and the most recent versions of its companion programs as amended, updated, or interpreted from time to time:

- The laboratory accreditation program (Accreditation Program), as set forth in the NFRC 701 Laboratory Accreditation Program (LAP).
- The IA licensing program (IA Program), as set forth in NFRC 702 Certification Agency Program (CAP).

- The Component Modeling Approach (ASL requirements) Approved Calculation Entity (ACE) licensing program (ACE Program), as set forth in the NFRC 708 Calculation Entity Approval Program (CEAP).

NFRC intends to ensure the integrity and uniformity of NFRC ratings, certification, and labeling by ensuring that responsible parties, testing and simulation laboratories, and IAs adhere to strict NFRC requirements.

In order to participate in the Certification Program, a Manufacturer/Responsible Party shall rate a product whose energy and energy-related performance characteristics are to be certified in accordance with mandatory NFRC rating procedures. At present, a Manufacturer/Responsible Party may elect to rate products for U-factor, SHGC, VT, AL, Condensation Resistance and/or Index, or any other procedure adopted by NFRC, and to include those ratings on the NFRC temporary label affixed to its products, or on the NFRC Label Certificate. U-factor, SHGC and VT, AL, and Condensation Resistance and/or Index rating reports shall be obtained from a laboratory that has been certified by NFRC in accordance with the requirements of the NFRC 701.

The rating shall then be reviewed by an IA which has been licensed by NFRC in accordance with the requirements of the NFRC 702. NFRC-licensed IAs also review label format and content, conduct in-plant inspections for quality assurance in accordance with the requirements of the NFRC 702, and issue a product Certification Authorization Report (CAR), or approve for issuance an NFRC Label Certificate for site-built or Component Modeling Approach (ASL requirements) products and attachment products. The IA is also responsible for the investigation of potential violations (prohibited activities) as set forth in the NFRC 707 Compliance and Monitoring Program (CAMP).

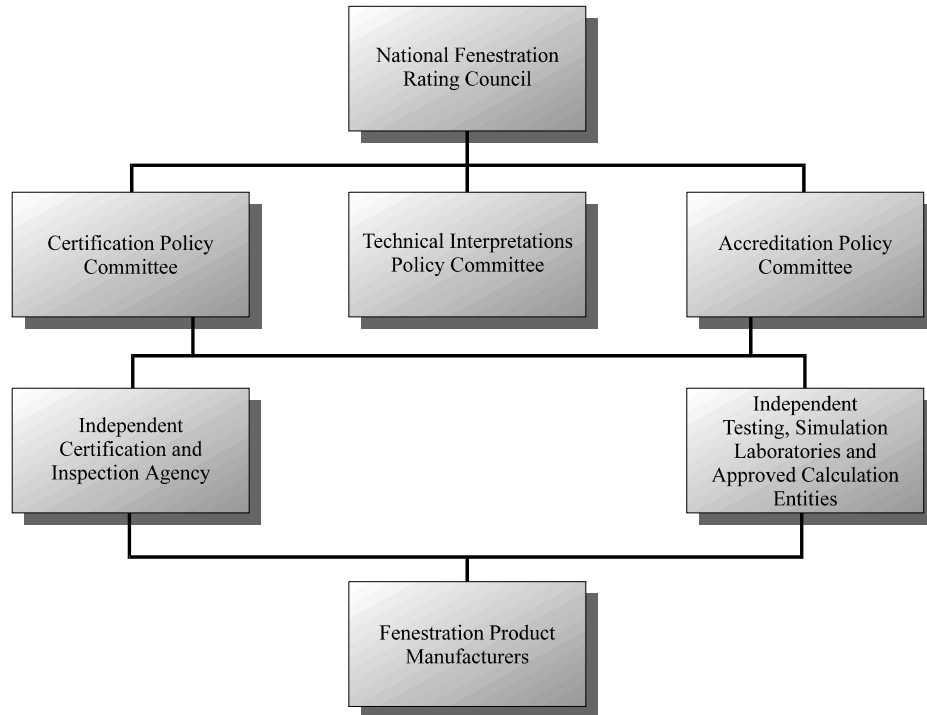
Ratings for products that are labeled with the NFRC Temporary and Permanent Label, or products that are listed on an NFRC Label Certificate in accordance with NFRC requirements, are considered to be NFRC-certified. NFRC maintains a Certified Products Directory (CPD), listing product lines and individual products selected by the manufacturer/responsible party for which certification authorization has been granted.

NFRC manages the Rating System and regulates the Product Certification Program (PCP), Laboratory Accreditation Program (LAP) and Certification Agency Program (CAP) in accordance with the NFRC 700 (PCP), the NFRC 701 (LAP), the NFRC 702 (CAP), the NFRC 705 (Component Modeling Approach (ASL requirements)-PCP), and the NFRC 708 (CEAP) procedures, and conducts compliance activities under all these programs as well as the NFRC 7007 (CAMP). NFRC continues to develop the Rating System and each of the programs.

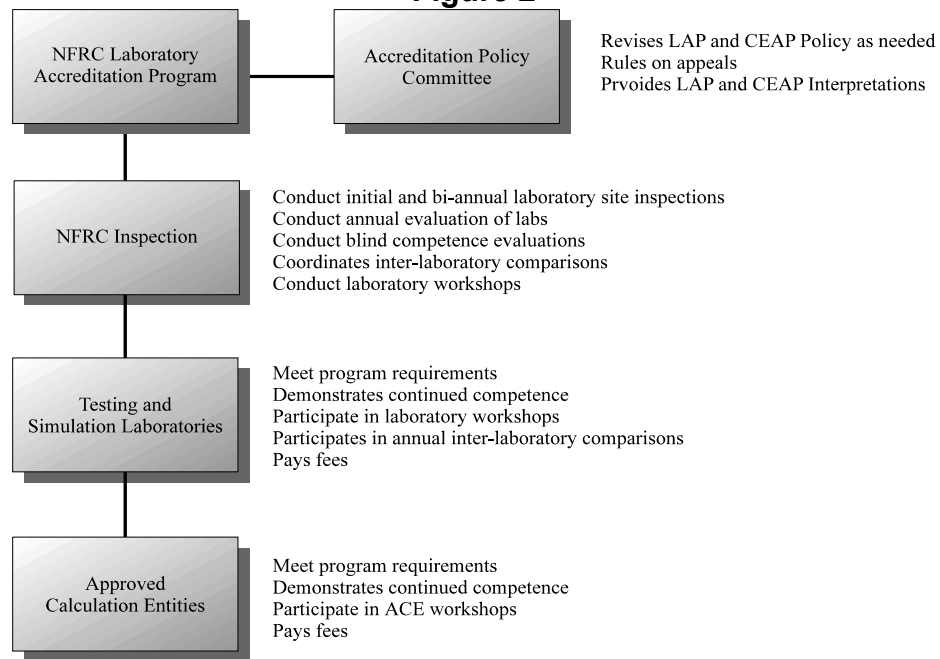
NFRC owns all rights in and to each of the NFRC 700, NFRC 701, NFRC 702, NFRC 705, NFRC 7007, NFRC 708 and each procedure, which is a component of the Rating System, as well as each of its registration marks, trade names, and other intellectual property.

The structure of the NFRC program and relationships among participants are shown in Figure 1, Figure 2, and Figure 3. For additional information on the roles of the IAs and laboratories and operation of the IA Program and Accreditation Program, see the NFRC 700 (PCP), NFRC 701 (LAP), and NFRC 702 (CAP) respectively.

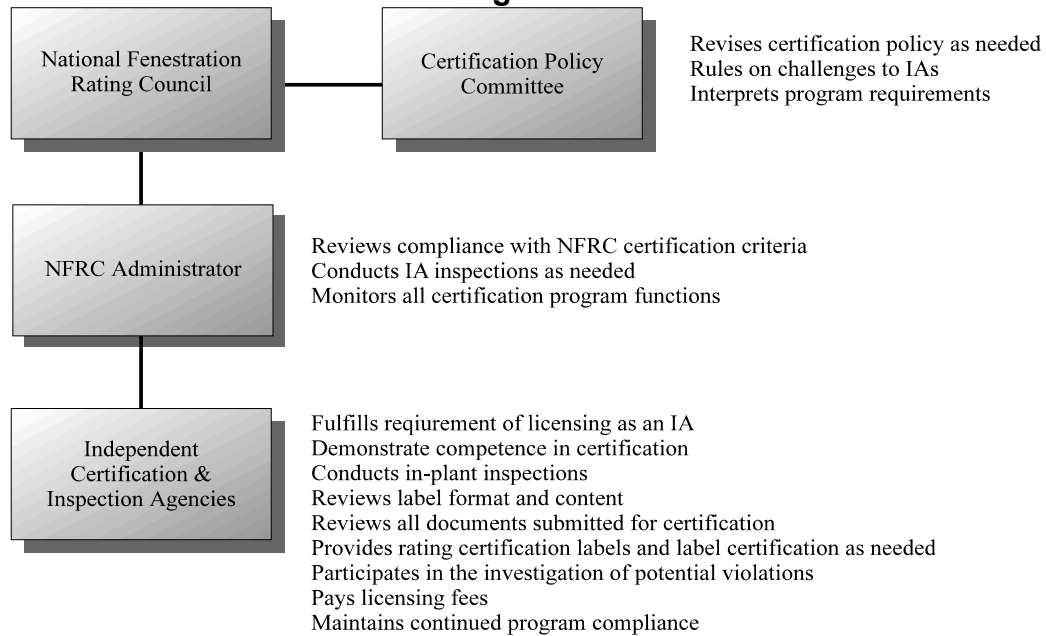
**Figure 1**



**Figure 2**



**Figure 3**



Questions on the use of this procedure should be addressed to:

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## ***DISCLAIMER***

NFRC certification is the authorized act of a Manufacturer/Responsible Party in: (a) labeling a fenestration or related attachment product with an NFRC Permanent Label and NFRC Temporary Label, or (b) generating a site built or Component Modeling Approach (ASL requirements) label certificate, either of which bears one or more energy performance ratings reported by NFRC-certified simulation and testing laboratories and authorized for certification by an NFRC-licensed IA. Each of these participants acts independently to report, authorize certification, and certify the energy-related ratings of fenestration and related attachment products.

NFRC does not certify a product and certification does not constitute a warranty of NFRC regarding any characteristic of a fenestration or fenestration-related attachment product. Certification is not an endorsement of or recommendation for any product or product line or any attribute of a product or product line. NFRC is not a merchant in the business of selling fenestration products or fenestration-related products, and therefore cannot warrant products as to their merchantability or fitness for a particular use.

NFRC THEREFORE DISCLAIMS ANY AND ALL LIABILITY THAT MAY ARISE FROM OR IN CONNECTION WITH SERVICES PROVIDED BY, DECISIONS MADE BY OR REPORTS OR CERTIFICATIONS ISSUED OR GRANTED BY ANY NFRC-CERTIFIED LABORATORY, NFRC-LICENSED IA OR ANY PRODUCT MANUFACTURER/RESPONSIBLE PARTY; RELIANCE ON ANY NFRC PRODUCT DESCRIPTION, SPECIFICATION, RATING, TEST OR CERTIFICATION, WHETHER APPEARING IN A REPORT, A PRODUCT CERTIFICATION AUTHORIZATION OR A PRINTED OR ELECTRONIC DIRECTORY, OR ON A LABEL, OR ON A LABEL CERTIFICATE; OR THE SALE OR USE OF ANY NFRC-RATED OR CERTIFIED PRODUCT OR PRODUCT LINE; INCLUDING BUT NOT LIMITED TO DAMAGES FOR PERSONAL OR OTHER INJURY, LOST PROFITS, LOST SAVINGS OR OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES.

NFRC program participants are required to indemnify NFRC from and against such liability.



## Table of Contents

|                                                       |          |
|-------------------------------------------------------|----------|
| <b>Foreword</b>                                       | <b>i</b> |
| <b>Disclaimer</b>                                     | <b>v</b> |
| <b>1. Scope of the Certified Simulator Program</b>    | <b>1</b> |
| 1.1 SCOPE OF THE CERTIFIED SIMULATOR PROGRAM (CSP)    | 1        |
| 1.2 ROLE AND RESPONSIBILITY OF NFRC                   | 1        |
| 1.3 ROLE AND RESPONSIBILITY OF LCS / CS               | 2        |
| <b>2. Requirements</b>                                | <b>2</b> |
| 2.1 TRAINING REQUIREMENTS                             | 2        |
| 2.2 PARTICIPATION REQUIREMENTS                        | 3        |
| <b>3. Certified Simulator Tiered Program</b>          | <b>3</b> |
| 3.1 SIMULATOR LEVELS                                  | 4        |
| <b>4. Certification Procedures</b>                    | <b>5</b> |
| 4.1 TRAINING WORKSHOP AND CERTIFICATION PREREQUISITES | 5        |
| 4.1.1 Certified Simulator                             | 5        |
| 4.1.2 LEAFF Certified Simulator                       | 6        |
| 4.2 PROCESS TO ACHIEVE CERTIFICATION                  | 7        |
| 4.3 EXAM EVALUATION AND GRADING                       | 8        |
| 4.3.1 CS Exam Evaluation                              | 8        |
| 4.3.2 LCS Exam Evaluation                             | 9        |
| 4.3.3 Grading                                         | 9        |
| 4.4 ISSUANCE OF CERTIFICATION                         | 10       |
| 4.5 DENIAL OF CERTIFICATION                           | 10       |
| 4.6 CERTIFICATES                                      | 10       |
| 4.7 CERTIFICATION MAINTENANCE AND RENEWAL             | 11       |
| 4.7.1 Certification Maintenance                       | 11       |
| 4.7.2 Renewal of Certification                        | 12       |
| 4.8 CERTIFICATION AGREEMENT                           | 12       |

|           |                                                                                     |           |
|-----------|-------------------------------------------------------------------------------------|-----------|
| <b>5.</b> | <b>Suspension and Revocation of Certification .....</b>                             | <b>13</b> |
| 5.1       | SUSPENSION OF CERTIFICATION AGREEMENT .....                                         | 13        |
| 5.1.1     | Notification of Suspension.....                                                     | 13        |
| 5.1.2     | Addressing the Notification of Suspension.....                                      | 14        |
| 5.1.3     | Withdraw the Suspension .....                                                       | 14        |
| 5.1.4     | Escalation of Suspension to Revocation .....                                        | 15        |
| 5.1.5     | NFRC 701 Certified Laboratory LCS / CS.....                                         | 15        |
| 5.2       | REVOCATION OF CERTIFICATION AGREEMENT.....                                          | 15        |
| 5.2.1     | Determining a Revocation .....                                                      | 15        |
| 5.2.2     | Notification of Revocation .....                                                    | 15        |
| 5.2.3     | Responding to the Notification of Revocation .....                                  | 16        |
| 5.2.4     | Reapplying for Reinstatement.....                                                   | 16        |
| 5.2.5     | Appeal the Revocation .....                                                         | 16        |
| 5.2.6     | Terminate the Revocation .....                                                      | 16        |
| 5.2.7     | NFRC 701 Accredited Laboratory LCS / CS .....                                       | 17        |
| <b>6.</b> | <b>Appeals Procedures .....</b>                                                     | <b>17</b> |
| 6.1       | APPEALS PROCEDURE AFTER DENIAL, SUSPENSION, OR REVOCATION OF<br>CERTIFICATION ..... | 17        |
| 6.1.1     | Appeal of a Certification Denial.....                                               | 17        |
| 6.1.2     | Appeal of Suspension of Certification .....                                         | 18        |
| 6.1.3     | Appeal of Revocation of Certification .....                                         | 19        |
| <b>7.</b> | <b>Referenced Documents .....</b>                                                   | <b>20</b> |

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# 1. SCOPE OF THE CERTIFIED SIMULATOR PROGRAM

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## 1.1 Scope of the Certified Simulator Program (CSP)

The CSP sets forth requirements applicable to individuals who are interested in attaining certification credentials under the CSP. Certification is a voluntary process by which individuals are assessed for knowledge, skills, competencies and granted a time-limited credential.

The tiered program requires an individual to demonstrate the level of knowledge and competence to achieve the status as a Linear Energy Analysis For Fenestration (LEAFF) Certified Simulator (LCS), Commercial Fenestration Certified Simulator (CFCS), or Certified Simulator (CS).

The CSP requires the individual to maintain a level of proficiency and experience to perform successfully as an LCS / CFCS / CS.

Note: The LCS is a requirement to become a Simulator-in-Responsible-Charge (SIRC) under the NFRC 701 Laboratory Accreditation Program (LAP). The CFCS is an additional certification that may be obtained by an SIRC.

## 1.2 Role and Responsibility of NFRC

The NFRC owns and operates the CSP. NFRC is responsible for:

- A. Managing, reviewing, maintaining, and implementing the requirements of the CSP.
- B. Conducting educational and training workshops for individuals interested in obtaining a certification as a simulator.
- C. Maintaining and updating a listing of the status of each LCS / CFCS / CS.
- D. The CSP Team (CSPT), comprised of the Director of Program Operations and Program Managers, are responsible for the governing and operations of the CSP. This includes, but is not limited to, program language development; process and software training; assessing, granting, suspending, and revoking an individual's certification.
- E. The CSP Oversight Group (CSPOG) is comprised of the Executive Members of the Accreditation Policy Committee (APC) and shall provide oversight of the impartiality of the CSPT. The CSPOG has the right to act independently to inform authorities, accreditation bodies, or stakeholders in cases when the CSPT and/or top management actions are at risk of impartiality.

- F. NFRC shall maintain confidentiality of all proprietary participants and NFRC information.
- G. Provide a CS / LCS / CFCS certificate access link to the NFRC website under the specific workshop scope to the individual.
- H. Provide individuals with a CS, LCS, or CFCS CS certificate number.

### **1.3 Role and Responsibility of LCS / CFCS / CS**

The LCS / CFCS / CS shall be responsible for meeting the requirements of the CSP including, but not limited to, the following:

- A. The individual shall sign a certification agreement.
- B. Maintain status as an active participant in the CSP.
- C. Inform NFRC about any changes to contact information or status. If NFRC is not able to contact the CSP and any mandatory correspondence by NFRC is not returned, then the CSPT may suspend or revoke the individual's certification.
- D. Participate in the following:
  - i. An annual Certified Simulator Round Robin (CSRR)
  - ii. A Certified Simulator Competency Exam (CSCE) administered every three (3) years in lieu of a CSRR and obtain a passing grade.
- E. Pay associated program fees.
- F. Attend all mandatory training events (workshops, NFRC meetings, other organizational informational webinars, etc.)
- G. Follow additional requirements established as necessary to assure continued program compliance.

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## **2. REQUIREMENTS**

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Individuals participating in the CSP shall meet the program requirements to gain initial certification and maintain CSP status.

### **2.1 Training Requirements**

- A. Successfully meet prerequisite requirements if applicable.
- B. Attend training sessions listed in [Table 1](#).
- C. Successfully pass the required initial certification exams.

## 2.2 Participation Requirements

- A. Participate and pass the triennial CSCE
- B. Attend workshops that are deemed mandatory due to significant software additions, changes and/or updates.
- C. Participate in the annual CSRR.

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## 3. CERTIFIED SIMULATOR TIERED PROGRAM

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The CSP is a tiered program and the individual's certification is based on attending specific training sessions and successfully passing required proficiency exams.

**Table 1 – Training Session Descriptions**

| Training Workshop                                                                                                                                                         | Session Description                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CS Level Training:<br>NFRC 7000 Product Certification Program (PCP)                                                                                                       | Understanding the modeling requirements, using NFRC-approved software, per ANSI/NFRC 100, ANSI/NFRC 200, ANSI/NFRC 500 and NFRC Simulation Manual not associated with LEAFF methodology                                                       |
| LCS Level Training:<br><u>NFRC 7000 Product Certification:</u><br>1) Linear Energy Analysis for Fenestration (LEAFF) Methodology                                          | Understanding how to calculate whole product ratings using LEAFF methodology per ANSI/NFRC 100, ANSI/NFRC 200, ANSI/NFRC 500, NFRC LEAFF Trendline Simulation Manual.                                                                         |
| <u>CFCS Level Training:</u><br><u>NFRC 715 Product Certification:</u><br>1) Commercial Trendline Approach (CTA) for Product Directory Path, and<br>2) Custom Project Path | Understanding how to establish CTA trendline data per ANSI/NFRC 100, ANSI/NFRC 200, ANSI/NFRC 500, NFRC CTA Simulation Manual.<br><br>Understanding how to calculate whole product ratings for custom commercial fenestration configurations. |

### **3.1 Simulator Levels**

There are three levels of simulator in NFRC's certified simulator program and specific workshop attendance requirements, See Table 2.

To achieve any certified simulator status the individual must pass the associated exam(s) for the respective level, see Section 4.3.

To submit data for certification within NFRC's product certification programs, the certified simulator shall be employed or contracted by an NFRC 701 accredited simulation laboratory or in the case of the NFRC 715 Custom Project Path the individual, if not employed or contracted by an NFRC 701 accredited laboratory, shall be employed or contracted with a Custom Project Rating Laboratory (CPRL).

#### **3.1.1 Certified Simulator (CS)**

This is the entry level workshop to introduce the simulator to the NFRC 7000 product certification program.

#### **3.1.2 LEAFF Certified Simulator (LCS)**

- A. All individuals shall be required to have the status of certified simulator (CS) per Section 3.1.1 prior to attending this level workshop. The LCS shall attend workshops for all NFRC product certification programs they will be providing ratings.
- B. This simulator status is the level authorized to provide ratings in accordance with NFRC 7000 certification program.

#### **3.1.3 Commercial Fenestration Certified Simulator (CFCS)**

- A. All individuals shall be required to have the status of certified simulator (CS) per Section 3.1.1 prior to attending this level workshop. The CFCS shall attend workshops for all NFRC product certification programs they will be providing ratings.
- B. This simulator status is authorized to develop product trendlines under the Product Directory Path and for calculating commercial fenestration whole product ratings under the Custom Project Path in accordance with the NFRC 715 certification program.

**Table 2 – Simulator Level Descriptions**

| <b>Level</b>                                        | <b>Attend Required Training Workshop</b>                                                        |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Certified Simulator (CS)                            | NFRC 7000 (PCP)                                                                                 |
| LEAFF Certified Simulator (LCS)*                    | NFRC 7000 LEAFF Methodology                                                                     |
| Commercial Fenestration Certified Simulator (CFCS)* | NFRC 715 Commercial Trendline Approach (CTA) for Product Directory Path and Custom Project Path |

\*Only Certified Simulators (CS) can attend LCS or CFCS Certified Simulator Workshops

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## **4. CERTIFICATION PROCEDURES**

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Individuals can choose the required training session to obtain a specific certification level. [Section 4.1](#) describes requirements and benefits of obtaining certification. [Section 4.7](#) describes requirements of maintaining and renewing certification.

### **4.1 Training Workshop and Certification Prerequisites**

#### **4.1.1 Certified Simulator**

- A. Individuals shall demonstrate experience with the NFRC approved software Berkeley Lab WINDOW and THERM through resume or professional reference from a CS, LCS, CFCS or equivalent software training program.
- B. In cases where the individual does not have the required experience, the individual may be required to perform and successfully complete a proficiency exam to attend training.
- C. For individuals whose certified status has lapsed and requests to be re-instated shall adhere to the following:
  - i. Status lapsed less than two (2) years;
    - (a) Review all mandatory training workshops recorded since the status lapsed, and;
    - (b) Complete a re-instatement CSP exam evaluated and graded per [Section 4.3.1](#).
      - 1. Upon receiving a passing grade, the individual shall have their status reinstated as a CS.

2. Failing the re-instatement exam shall require re-attending the CS Level Training Workshop and pass all required exams.
- ii. Status lapsed more than 2 years is not eligible for re-instatement. Individuals shall attend the CS level training workshop per Section 4.2.

#### **4.1.2 LEAFF and Commercial Fenestration Certified Simulator**

To attend these workshops, individuals shall have a status as a CS.

For individuals whose LCS or CFCS status has lapsed and requests to be re-instated shall adhere to the following:

- A. Status not lapsed more than 2 years;
  - i. Review all CS, LCS, and CFCS specific training workshops recorded since the status lapsed;
  - ii. Complete a reinstatement CSP Exam and a LCS and/or CFCS exam which is evaluated and graded per Section 4.3.1, Section 4.3.2, and Section 4.3.3.
    - (a) Upon successfully passing both the CS exam (evaluated and graded per Section 4.3.1) and the LCS and/or CFCS exam (evaluated and graded per [Section 4.3.2 and Section 4.3.3](#)), the individual shall have their status reinstated as an LCS or CFCS.
    - (b) Failing the re-instatement CS exam shall require attending the CS Level Training Workshop and pass all required exams. Upon achieving CS status, the individual shall subsequently attend the LCS and/or CFCS level training workshops and pass all required exams.
    - (c) Failing of the LCS and/or CFCS exams, but passing the CS exam, shall require attending the LCS and/or CFCS level training workshops and pass all required exams.
- B. Status lapsed more than 2 years is not eligible for re-instatement of the CS, LCS, or CFCS simulator certification.
  - i. Individual shall attend the CS level training workshop per Section 4.2.

- ii. Once the CS level status is successfully obtained, individual may attend the LCS and/or CFCS level training workshops per Section 4.2 to obtain LCS and/or CFCS simulator certification.

#### 4.2 Process to Achieve Certification

- A. Individuals shall attend an NFRC hosted CSP workshop. The workshop may be conducted on-site or via an online training module.
- B. The CSPT shall administer an exam for the specified training.
- C. The individual shall use the NFRC approved software and submit applicable documents to the CSPT by the established deadline. Refer to [Table 3](#) for each exam.
- D. The CSPT shall evaluate, assess, and grade submitted exams per [Table 4](#).
- E. All exams shall be based on currently approved simulation tools, technical documents, and program requirements at the time of assigned exam or as instructed in the exam instructions.

**Table 3 – Exam Submittal Deadlines**

| Training Workshop                                                                                                                                            | Submittal Deadline*                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| CS Level Training:<br>NFRC 7000 Product Certification Program (PCP)                                                                                          | 30 calendar days upon receipt of exam |
| LCS Level Training:<br><u>NFRC 7000 Product Certification</u><br>Linear Energy Analysis for Fenestration (LEAFF) Methodology                                 | 30 calendar days upon receipt of exam |
| CFCS Level Training:<br><u>NFRC 715 Product Certification</u><br>1) Commercial Trendline Approach (CTA) for Product Directory Path<br>2) Custom Project Path | 30 calendar days upon receipt of exam |
| * Deadline extensions may be requested due to extenuating circumstances and must be submitted to NFRC for review and approval.                               |                                       |

### 4.3 Exam Evaluation and Grading

The CSPT is responsible for evaluating, assessing, and grading exams based on the adherence to NFRC program and technical documents to include accuracy of modeling, adhering to simulation manual requirements, and product ratings.

#### 4.3.1 CS Exam Evaluation

- A. Minor modeling or reporting errors = 1 – 4 points; examples of these errors are but not limited to: incorrect emissivity in an un-painted cavity hollows and/or unventilated surface of a material (1 pt) , un-filled <2mm ventilated frame cavity gaps (1 pt), assignment of a ventilated cavity as "Frame Cavity 100" when it should be "Slightly Ventilated (3 pts), using Slightly Ventilated Cavity to any interior gap (3 pts), no interior seal for air leakage potential (3 pts).
- B. Major modeling or reporting errors = 5 – 10 points; examples of these errors are, but not limited to: incorrect unventilated frame cavity subdivisions (5 pts), incorrect frame absorptance (5 pts), incorrect boundary conditions (10 pts), missed frame/sash/spacer components (5 pts), adding frame/sash components that should not be modeled (5 pts), incorrectly assigned CR cavity height (5 pts), seal an interior frame/sash gap that is not allowed (5 pts), incorrect room-side frame emissivity (10 pts), incorrect gas gap fill percentage or type (10 pts), incorrect frame profiles modeled (10 pts), incorrect LowE surface coating location (10 pts), incorrect brand or type of glass layer, including imports from OPTICS (10 pts).
- C. In addition to point deductions in 4.3.1.A through .B, if any rating deviates from the expected results, there is another deduction of 15-points for any rating exceeding the following tolerances:
  - U-factor: +/- 0.12 W/m<sup>2</sup>K (0.02 Btu/hr/ft<sup>2</sup>F)
  - SHGC/VT: +/- 0.02
  - Condensation Resistance (CR): +/- 4
  - Condensation Index (CI): +/- 2.
- D. Immediate failure. Examples of immediate failures are, but not limited to; not submitting the exam, incorrect product type, simulating the product backwards, and submittal of an incomplete exam.

#### 4.3.2 LCS Exam Evaluation

- A. Trendline recognition exam shall be graded as pass/fail. There is no partial credit.
- B. Developing the whole product rating exam. Errors affecting the rating;
  - i. using incorrect COG U-factors = 5 pts
  - ii. using incorrect trendline points = 10 pts
  - iii. incorrectly apply wrong set of product options = 10 pts
  - iv. not within 0.17 W/m<sup>2</sup>-K for whole product U-factor = 30 points
  - v. not within 2 points for CI = 30 points
  - vi. not using at least 3 decimal point results for frame and edge temperatures in Celsius = 10 pts
  - vii. not using 6 decimals for COG U-factor = 5 pts
  - viii. did not model trendline options stated in exam = failure
  - ix. incorrect CR cavity height of 500mm = 10 pts

#### 4.3.3 CFCS Exam Evaluation

- A. The NFRC 715 Custom Project Path will follow Section 4.3.1 evaluation.
- B. The NFRC 715 Product Directory Path (CTA) will follow 4.3.2 evaluation, except whole product ratings are not calculated. The trendline equations developed will be used to determine whole product ratings.

#### 4.3.4 Grading

A final grade is calculated per [Section 4.3.1](#), [Section 4.3.2](#) and [Section 4.3.3](#) and [Table 4](#) displays the required passing grade to achieve certification

The exams are administered using pass / fail criteria upon the initial submission.

An individual that received a failing grade on the first submittal will be notified (via email) and allowed one additional opportunity to achieve a passing score. The re-submittal shall be received within 14 calendar days of receipt of email notification. If the second submittal is a failing grade, a notice of denial for certification will be sent per [Section 4.5](#).

**Table 4 – Passing Grades**

| <b>Training Workshop</b>                                                                     | <b>Passing Grade</b> |
|----------------------------------------------------------------------------------------------|----------------------|
| CS Level Training – NFRC 7000                                                                | 75                   |
| LCS Level Training – NFRC 7000<br>Linear Energy Analysis for Fenestration (LEAFF Methodology |                      |
| Part A – Trendline Recognition and Breakdown Exam                                            | Pass                 |
| Part B - Develop Whole Products Ratings Exam                                                 | 75                   |
| CFCS Level Training - NFRC 715<br>CTA for Product Directory Path and Custom Project Path     |                      |
| Part A – CTA Trendline Recognition and Breakdown Exam                                        | Pass                 |
| Part B – Develop CTA trendline (mx+b) equations used for whole product ratings               | 75                   |
| Part C – Develop Whole Product Ratings for a product using the Custom Project Path           | 75                   |
|                                                                                              |                      |

**4.4 Issuance of Certification**

Issuing of certification shall require the individual to fulfill all specific training workshop requirements and successful completion of all exams.

**4.5 Denial of Certification**

If an individual fails to fulfill any requirements, the CSPT shall submit a Notice of Denial to the individual including the reasons for the determination. Denial of certification may be appealed in accordance with the procedures set forth in [Section 6](#).

**4.6 Certificates**

- A. All certificates are the property of NFRC.
- B. Certificates shall be renewed upon successful completion of the CSCE. A CSCE shall be distributed on a three-year certification schedule, or deemed sooner at the discretion of CSPT and CSPOG due to summary performances of the annual CSRR.
- C. Certificates become void in the absence of renewal of certification pursuant to [Section 4](#) or suspension or revocation of certification per [Section 5](#).

## **4.7 Certification Maintenance and Renewal**

### **4.7.1 Certification Maintenance**

#### **4.7.1.1 Proficiency Evaluations**

Each LCS / CFCS / CS shall complete annually either a CSCE or CSRR as part of the competency evaluation to maintain individual certification.

- A. The CSCE shall require a passing grade of 75 and the grading criteria shall be clearly provided in the instructions for that year's exam.
- B. The CSRR is a non-graded NFRC evaluation of each simulator's continued skills and knowledge of the software. A CSRR Summary Report shall be drafted by the CSPT and presented to the CSPOG for review and approval. The CSRR Summary Report shall be used to identify simulators that were found to be an outlier(s) in the statistical data. Gross negligence of the modeling rules shall have a simulator's certification status reviewed for possible suspension or revocation.
- C. Simulator's results in the CSRR Summary Report will not be identified by name, company or certificate number but will be assigned a random ID number.

#### **4.7.1.2 Non-mandatory Workshops**

- A. Workshops may be scheduled to update all LCS / CFCS / CS of minor software updates or document changes (e.g. NFRC Simulation Manual) for modeling updates or present the findings from the CSRR.
- B. All non-mandatory workshops shall be scheduled and NFRC shall send all LCS / CFCS / CS a notification via email at least 30 days before the event. The workshop shall be recorded and posted to the NFRC website.

#### **4.7.1.3 Mandatory Workshops**

- A. As deemed by the CSPT, attendance is mandatory to train LCS / CFCS / CS for new software and/or significant changes/additions to existing software, and changes to modeling rules.

- B. Workshops regarding NFRC product certification programs are mandatory for all LCS and/or CFCS.
- C. All LCS / CFCS / CS required to attend a face-to-face workshop shall be notified 90 days before the scheduled event date. Online (e.g. webinar) workshop notifications shall be distributed no later than 30 days before the scheduled event.
- D. Failure to attend a mandatory workshop may result in immediate and automatic suspension of the certification. The CSPT shall provide a course of action for the party to making up the session within a specified timeline as determined by the CSPT. Certification shall be reinstated upon fulfillment of the requirement as determined by the CSPT.

#### **4.7.2 Renewal of Certification**

- A. All LCS / CFCS / CS shall pay the annual renewal fee to retain the LCS / CFCS / CS status, which coincides with the submittal of a CSCE or CSRR.
- B. On or before the due date of the triennial CSCE, the LCS / CFCS / CS in good standing shall submit the exam results and successfully pass the CSCE.
- C. Upon passing grade of CSCE, the CS/LCS shall renew their certification by signing a new CSP agreement and pay any applicable fees.
- D. LCS / CFCS / CS that are currently under suspension or revocation shall address their non-conformity per [Section 5.1](#) and [5.2](#), respectively, prior to being eligible to renew certification.

#### **4.8 Certification Agreement**

Upon completion of the certification process and approval by the CSPT, the individual shall enter into a certification agreement with NFRC and pay any applicable fees.

The certification agreement is the principal document governing the relationship between NFRC and LCS / CFCS / CS.

The agreement also governs the use and advertising of NFRC's registered mark by an LCS / CS.

The certification agreement does not become effective, and an LCS / CFCS / CS shall not be authorized to issue reports or to advertise their NFRC participation until the agreement is signed by NFRC and a fully executed copy is delivered to the individual.

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## **5. SUSPENSION AND REVOCATION OF CERTIFICATION**

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The basis for consideration of suspending or revocation shall be solely on the judgment of CSPT as determined by the evidence presented. Evidence may be in the form of the following, but not limited to:

- A. Submitted materials such as literature or reports; or
- B. The LCS / CFCS / CS's lack of action for not complying with program requirements, such as not submitting required CSP examinations; meeting workshop attendance requirements; delinquency in fee payments; or
- C. Impairing the objectivity or integrity of the CSP; or
- D. Causing irreparable harm to the reputation and brand of the NFRC.

A suspension of a certification agreement shall last until all corrective actions have been addressed per [Section 5.1](#).

A revocation is a removal of the individual's certification agreement for a minimum of one (1) calendar year until such time the individual can apply for reinstatement and demonstrates compliance per [Section 5.2](#).

A suspension or revocation of a certification agreement shall result in the removal of the LCS / CFCS / CS's certificate and name on the NFRC website. The LCS / CFCS / CS shall not be able to provide any correspondence, advertising (including social media), results or reports that references the individual's status as an LCS / CFCS / CS.

### **5.1 Suspension of Certification Agreement**

The CSP contains mandatory requirements for all LCS / CFCS / CS to maintain certification per Sections [1.3](#), [2.1](#), [2.2](#), and [4.7](#) and requirements in the certification agreement. Non-conformity to these requirements may result in the suspension of the certification agreement at the discretion of the CSPT.

#### **5.1.1 Notification of Suspension**

The CSPT shall determine the non-conformity and submit a Notice of Suspension via email containing the issue of non-conformity, the corrective action if applicable, and any fees or fines associated with the non-conformity.

The time to resolve the corrective action shall be determined by the CSPT based upon the LCS / CFCS / CS's response.

Any further evidence or action committed by the LCS / CFCS / CS past the date of the Notice of Suspension, may result in an increase in fees or fines, length of suspension time, and or escalation of suspension.

### **5.1.2 Addressing the Notification of Suspension**

The LCS / CFCS / CS shall have a maximum of fifteen (15) calendar days, based on the date of the Notice of Suspension, to reply with a corrective action. If the LCS / CFCS / CS does not respond by the deadline, NFRC shall escalate the suspension per [Section 5.2](#).

Prior to the deadline, the LCS / CFCS / CS may appeal the suspension per [Section 6](#).

#### **5.1.2.1 Reply with Corrective Action**

The goal of the corrective action is to demonstrate awareness of the non-conformity, provide the LCS / CFCS / CS the opportunity to adhere to the CSP requirement(s), and to mitigate future non-conformities.

The LCS / CFCS / CS shall either agree to the CSPT's recommendations for corrective action or may provide alternative corrective actions approved by the CSPT.

#### **5.1.2.2 Appeal the Suspension**

If the LCS / CFCS / CS does not agree with the CSPT's decision or corrective actions, the LCS / CFCS / CS may appeal the CSPT's decision to suspend the LCS / CFCS / CS.

The LCS / CFCS / CS shall submit an appeal per [Section 6](#).

### **5.1.3 Withdraw the Suspension**

To withdraw the suspension, the LCS / CFCS / CS shall successfully address the corrective action within the time as determined by the CSPT. The CSPT shall provide a letter announcing the withdrawal of the suspension and update the NFRC Certified Simulator webpage accordingly.

#### **5.1.4 Escalation of Suspension to Revocation**

In the case the LCS / CFCS / CS does not respond to the Notice of Suspension and/or does not demonstrate compliance to the non-conformity, the suspension shall be escalated to a revocation of the certification agreement and is subject to action per [Section 5.2](#).

#### **5.1.5 NFRC 701 Certified Laboratory LCS / CFCS / CS**

If the suspended LCS / CFCS / CS is employed by a laboratory accredited to NFRC 701, NFRC shall inform the Accreditation Policy Committee (APC).

#### **5.1.6 NFRC 715 Custom Project Rating Laboratory CFCS**

If the suspended CFCS is employed by a laboratory accredited to NFRC 715.02, NFRC shall inform the Accreditation Policy Committee (APC).

### **5.2 Revocation of Certification Agreement**

The revocation of a certification agreement is based on evidence presented that is beyond the scope of [Section 5.1](#). The following are the circumstances that shall result in revocation of the certification agreement.

- A. In the event that the LCS / CFCS / CS is suspended more than one time in any twelve (12) month period per [Section 5.1](#). Under any provision of the CSP certification agreement.
- B. The suspension is escalated.
- C. Impairing the objectivity or integrity of the CSP.
- D. Causing irreparable harm to the reputation and brand of the NFRC, such as but not limited to submitting false information; malicious or negligent actions, etc.
- E. Non-submittal of CSRR or CSCE per [Section 4.7.1](#).

#### **5.2.1 Determining a Revocation**

The CSPT shall investigate evidence to determine the necessity to proceed with the revocation of a certification agreement. If CSPT determines there is substantial evidence, a Notification of Revocation shall be submitted per [Section 5.2.2](#). If CSPT does not determine there is substantial evidence, the issue may be withdrawn, or the CSPT may proceed with suspension of the certification agreement per [Section 5.1](#).

#### **5.2.2 Notification of Revocation**

The CSPT shall submit a Notice of Revocation via email containing the determination for the revocation, the time to submit for

reinstatement, and upon reinstatement, the corrective action and any fees or fines. The time to submit for reinstatement is at the discretion of CSPT with a minimum of one (1) calendar year from the date of the Notice of Revocation, or in cases where an appeal was requested and denied, the date of the final Notice of Revocation.

Any further action committed by the LCS / CFCS / CS during the revocation period may result in an increase in fees or fines, an increase in the revocation period, or result in loss of certification privileges indefinitely.

A revocation shall result in having the individual removed from the LCS / CFCS / CS list.

### **5.2.3 Responding to the Notification of Revocation**

The LCS / CFCS / CS shall have a maximum of fifteen (15) calendar days, based on the date of the Notice of Revocation, to appeal in accordance with [Section 6](#) or accept the CSPT's decision. If the LCS / CFCS / CS does not respond by the deadline, NFRC shall terminate the LCS / CFCS / CS certification agreement immediately.

### **5.2.4 Reapplying for Reinstatement**

The goals of revocation are to demonstrate awareness of the improper actions, provide the LCS / CFCS / CS time to demonstrate to NFRC they can adhere to CSP requirements, and to mitigate future issues.

The LCS / CFCS / CS may apply for reinstatement after the determined amount of time per the Notice of Revocation. The LCS / CFCS / CS shall forward a request for reinstatement by demonstrating the issues for revocation are satisfactorily resolved which is determined at the discretion of CSPT.

### **5.2.5 Appeal the Revocation**

If the LCS / CFCS / CS does not agree with the revocation, the LCS / CFCS / CS may appeal submit an appeal per [Section 6](#).

### **5.2.6 Terminate the Revocation**

To terminate the revocation, the LCS / CFCS / CS shall submit a request for reinstatement per [Section 5.2.4](#). CSPT shall review the request for reinstatement and information supplied to determine the following:

- A. All actions for the revocation have been addressed and mitigated.

- B. All required training sessions have been attended or reviewed, and all exams have been passed successfully to obtain the specific certification status. The LCS / CFCS / CS shall pay all fees associated with training and examinations.
- C. If any fees or fines shall be invoiced. The LCS / CFCS / CS shall pay all invoices prior to the reinstatement.

At CSPT's discretion, the revocation shall be terminated. The CSPT shall provide a letter announcing the termination of the revocation, update the NFRC Certified Simulator webpage accordingly, and provide a certification agreement, upon which the LCS / CFCS / CS shall sign a certification agreement per [Section 4.8](#).

#### **5.2.7 NFRC 701 Accredited Laboratory LCS / CFCS / CS**

If the LCS / CFCS / CS is employed by a laboratory accredited to NFRC 701, NFRC shall inform the APC.

#### **5.2.8 NFRC 715 Custom Project Rating Laboratory CFCS**

If the CFCS is employed by a laboratory accredited to NFRC 715.02, NFRC shall inform the APC.

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## **6. APPEALS PROCEDURES**

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### **6.1 Appeals Procedure after Denial, Suspension, or Revocation of Certification**

In the event an individual is denied certification, or action results in the suspension or revocation an LCS / CFCS / CS's certification agreement, the individual shall have the right, for a fifteen (15) calendar days after the date of issuance of an NFRC Notice of Denial or Suspension or Revocation, as the case may be, to submit an appeal.

An appeal, whether from a Notice of Denial, Notice of Suspension, or Notice of Revocation, shall be in writing and sent by certified mail or other method which provides evidence of delivery to NFRC.

NFRC shall provide a response to the appeal within fifteen (15) calendar days for denials and suspensions and thirty (30) calendar days for revocations.

#### **6.1.1 Appeal of a Certification Denial**

An application to achieve an LCS / CFCS / CS status is reviewed by CSPT to determine if the individual meets the requirements set

forth in Sections [1.3](#), [2.1](#), [2.2](#), and [4](#). In cases where the individual does not meet the certification requirements, the CSPT shall forward a Notification of Denial per [Section 4.5](#).

- A. Upon receipt of the Notification of Denial, the individual shall provide in writing, email is acceptable, to the CSPT within fifteen (15) calendar days at a minimum of the following:
  - i. The basis for the appeal based on requirements listed in sections referenced in notification.
  - ii. Evidence supporting appeal.
- B. CSPT shall review and prepare the appeal for review by the CSPOG.
- C. At the discretion of the CSPT, the individual may be invited to meet during the review of the appeal. The CSPOG may request that the CSPT invites the appellant to the meeting of the appeal.
- D. The CSPOG has the right to request further information.
- E. The decision of the CSPOG is final.
- F. The CSPT shall provide a letter of the decision.
- G. In cases when the denial is overturned, the CSPT shall forward a Certification Certificate per [Section 4.6](#) and the individual shall be responsible to meet the requirements of Sections [4.7](#).

### **6.1.2 Appeal of Suspension of Certification**

The CSP requires an LCS / CFCS / CS to maintain certification through meeting many requirements, such as attending workshops, successfully completing an annual proficiency examination, and paying annual fees.

Each year, the CSPT shall review that each LCS / CFCS / CS meets the requirements set forth in Sections [1.3](#), [2.1](#), [2.2](#), and [4](#) and in cases where the LCS / CFCS / CS has a non-conformity, the CSPT shall adhere to the actions in [Section 5.1](#).

- A. Upon receipt of the Notification of Suspension, the individual shall provide in writing, email is acceptable, to the CSPT within fifteen (15) calendar days at a minimum of the following:
  - i. The basis for the appeal is based on requirements listed in sections referenced in notification.
  - ii. Evidence supporting appeal

- B. CSPT shall review and prepare the appeal for review by the CSPOG.
- C. At the discretion of the CSPT, the individual may be invited to meet during the review of the appeal. The CSPOG may request that the CSPT invite the appellant to the meeting of the appeal.
- D. The CSPOG has the right to request further information.
- E. The decision of the CSPOG is final.
- F. The CSPT shall provide a letter of the decision.
- G. In cases when the suspension is overturned:
  - i. The CSPT shall withdraw the suspension per [Section 5.1.3](#).
  - ii. At the discretion of the CSPT, the LCS / CFCS / CS may be required to submit corrective actions and submit to actions per [Section 5](#) if non-responsive.

### **6.1.3 Appeal of Revocation of Certification**

The CSP requires an LCS / CFCS / CS to maintain a high-level of competencies and to act and provide results with integrity and responsibility. Any such evidence presented that the LCS / CFCS / CS's performance is negligent, the CSPT shall adhere to the actions in [Section 5.2](#).

- A. Upon receipt of the Notification of Revocation, the individual shall provide in writing, email is acceptable, to the CSPT within fifteen (15) calendar days at a minimum of the following:
  - i. The basis for the appeal is based on requirements listed in sections referenced in notification.
  - ii. Evidence supporting appeal
- B. The CSPT shall review and prepare the appeal for review by the CSPOG.
- C. At the discretion of the CSPT, the individual may be invited to meet during the review of the appeal. The CSPOG may request that the CSPT invite the appellant to the meeting of the appeal.
- D. The CSPOG has the right to request further information.
- E. The decision of the CSPOG is final.
- F. The CSPT shall provide a letter of the decision.

- G. In cases when the revocation is overturned:
  - i. The CSPT shall terminate the revocation per [Section 5.2.6](#).
  - ii. At the discretion of the CSPT, the LCS / CFCS / CS may be required to submit corrective actions and submit to actions per [Section 5](#) if non-responsive.

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## 7. REFERENCED DOCUMENTS

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1. ANSI/NFRC 100: Procedure for Determining Fenestration Product U-factors.
2. NFRC 101: Procedure for Determining Thermo-Physical Properties of Materials for Use in NFRC-Approved Software Programs.
3. NFRC 102: Procedure for Measuring the Steady-State Thermal Transmittance of Fenestration Systems.
4. ANSI/NFRC 200: Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
5. NFRC 201: Procedure for Interim Standard Test Method for Measuring the Solar Heat Gain Coefficient of Fenestration Systems Using Calorimetry Hot Box Methods.
6. NFRC 202: Procedure for Determining Translucent Fenestration Product Visible Transmittance at Normal Incidence
7. NFRC 203: Procedure for Determining Visible Transmittance of Tubular Daylighting Devices
8. NFRC 300: Test Method for Determining Solar Optical Properties of Glazing Materials and Systems.
9. NFRC 301: Standard Test Method for Emittance of Specular Surfaces Using Spectrometric Measurements.
10. NFRC 303: Creating a Laminate in Optics for NFRC Certification
11. NFRC 304: Creating an Applied Film Layer in Optics for NFRC Certification
12. ANSI/NFRC 400: Procedure for Determining Fenestration Product Air Leakage
13. NFRC 500-2017: Procedure for Determining Fenestration Product Condensation Resistance Values.
14. ANSI / NFRC 500-2026: Procedure for Determining Fenestration Product Condensation Index Values

15. NFRC 501-2017: User Guide to NFRC 500: Procedure for Determining Fenestration Product Condensation Resistance Rating Values.
16. NFRC 501-2026: User Guide to ANSI/NFRC 500: Procedure for Determining Fenestration Product Condensation Index Rating Values.
17. NFRC 600: Glossary and Terminology
18. NFRC 601: NFRC Units and Measurement Policy
19. NFRC 701: Laboratory Accreditation Program
20. NFRC 7000: NFRC Product Certification Program
21. NFRC 7007: Compliance and Monitoring Program
22. NFRC 714: NFRC Challenge and Appeals Procedures
23. NFRC 715: Commercial Energy Performance Certification Program: Products & Projects
24. NFRC 715.02: Custom Project Rating Laboratory Program